CASMALIA RESOURCES HAZARDOUS WASTE MANAGEMENT FACILITY

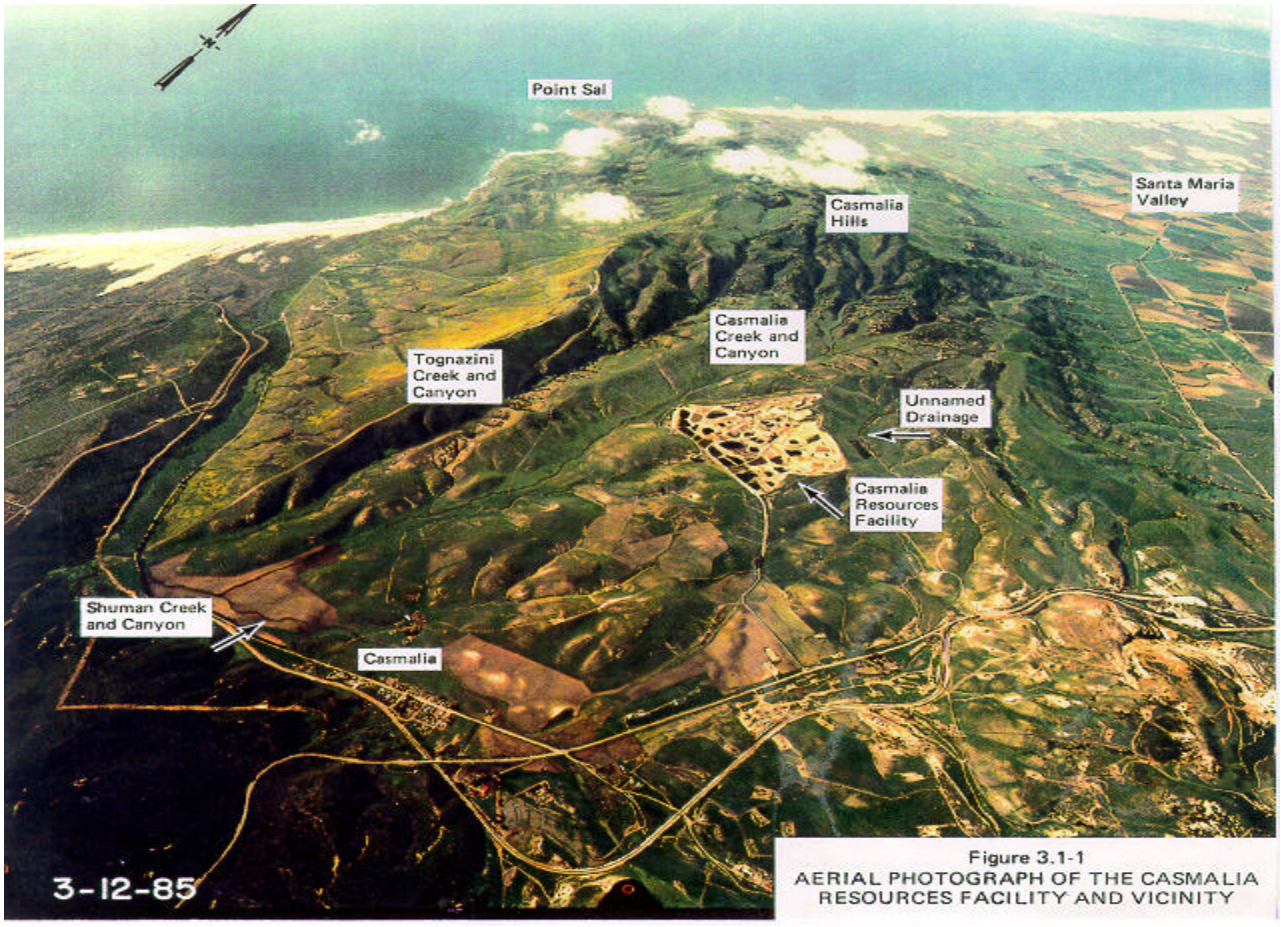


Figure 3.1-1
AERIAL PHOTOGRAPH OF THE CASMALIA RESOURCES FACILITY AND VICINITY

WHAT IS THE CASMALIA RESOURCES HAZARDOUS WASTE MANAGEMENT SITE?

Casmalia Resources is a large hazardous waste disposal facility that accepted waste from April 1973 to November 1989 under the regulation of the Central Coast Regional Water Quality Control Board (RWQCB), the U.S. Environmental Protection Agency (U.S. EPA), and the Department of Toxic Substances Control (DTSC). The 252 acre facility is located in the hills in northwest Santa Barbara County, north of the small town of Casmalia, adjacent to Vandenberg Air Force Base and between Santa Maria and Lompoc. Within the facility boundaries, the elevation changes roughly 400 feet from the northern to southern end of the facility.

The 252 acre facility accepted over 5.56 billion pounds of a wide variety of hazardous wastes from over 10,000 generators. The wastes, in both liquid and solid forms, included acids, bases, solvents, pesticides, metals, petroleum field wastes, and polychlorinated biphenyls. The wastes were deposited into a series of fifty-eight unlined surface impoundments (commonly called “ponds” or “pads”), six unlined landfills, eleven shallow injection wells, seven burial trenches and several oil spreading areas.

Casmalia Resources stopped accepting wastes in 1989 due to the facility’s failure to meet regulatory land disposal requirements. The owner began closing the ponds and pads while continuing with plans to modernize the facility (replacing the ponds and pads with lined landfills). The contaminated sludge and soils excavated from the ponds, located mostly on the southern end of the facility, and pads were disposed of on-site in four of the six landfills. As a result of this effort, a very large amount of hazardous waste was placed in the landfills and two very large low areas were created on the south side of the facility. These two low areas, intended by the owner to be part of the facility’s modernization plan, have unintentionally become surface water impoundments.

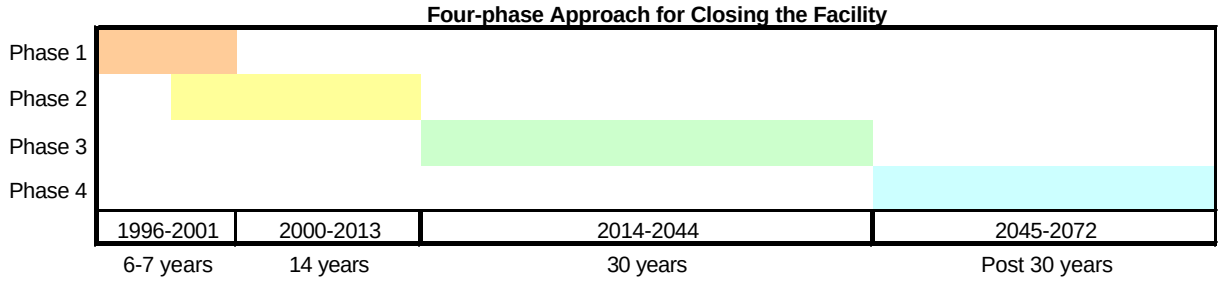
In September of 1991, DTSC terminated work on the modernization permit application and U.S. EPA revoked the facility’s interim status authorization to operate under the Resource Conservation and Recovery Act (RCRA). Claiming bankruptcy, the owner ceased closure

work and all facility maintenance in 1992. As a result, U.S. EPA sent an Emergency Response Team onto the site in August 1992 to prevent deterioration of the facility. The lead enforcement role was transferred to U.S. EPA from DTSC in December 1992.

INITIATION OF CLOSURE/CLEANUP WORK

U.S. EPA initiated a "Superfund" type cleanup process, notifying some of the larger waste contributing companies and governmental entities, including the State, of their potential liability. Approximately fifty of the companies collectively established the Casmalia Resources Site Steering Committee (commonly called the "CSC") to negotiate with U.S. EPA. A consent decree between U.S. EPA and the CSC was formally entered into in June 1997. The facility was placed on the National Priority List (NPL) in September of 2001. Such placement onto the NPL will allow U.S. EPA to access "Superfund" monies, if necessary, to complete the investigation and remediation of the facility.

The decree established a four-phased approach to closing the facility and defined the scope of responsibilities of the CSC. Phase 1 consists primarily of investigation activities, routine maintenance, and construction of a cap over one of the six landfills. Phase 1 was to run for a period of six to seven years. Phase 2 was to overlap with Phase 1 and run for a period of 12 years. Phase 2 activities focused on: the continuation of certain routine work started in Phase 1; closure/cleanup construction work; and the first five years of post closure operation and maintenance. Phases 3 and 4 cover long-term operation and maintenance of the site, with Phase 3 covering the initial 30 years after Phase 2, and Phase 4 covering everything beyond. Currently it is projected that Phase 2 will end in 2013.

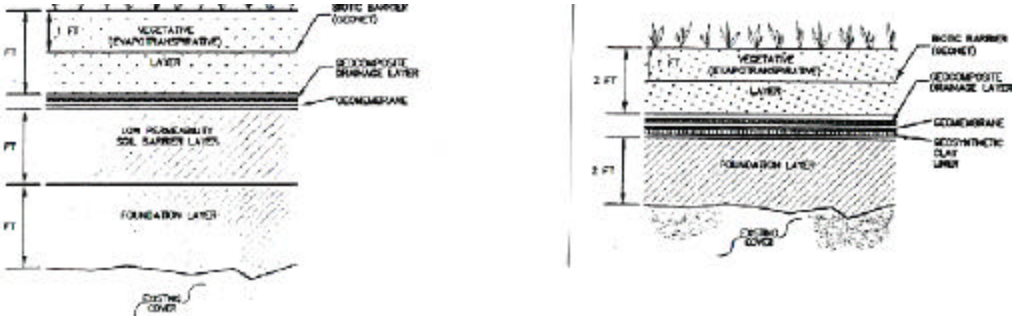


WORK ONGOING NOW

Looking southwest in April 1998

Work to clean up the facility is progressing. DTSC is the State lead for this project and responsible for coordinating review and input from other State regulatory agencies such as the RWQCB, Department of Fish and Game (DFG), and Department of Water Resources (DWR) along with close coordination with U.S. EPA and other federal agencies. The treatment plant set up by U.S. EPA to treat contaminated liquids extracted from the site has been modified to improve flow and treatment efficiency. The two large reservoirs and 3 remaining ponds, along with the many groundwater wells in and around the Site, are routinely monitored for water level and chemical quality. Because of the large volume of rain water that has accumulated since 1992 on the site, a National Pollutant Discharge Elimination System ("NPDES") permit was issued for the facility by the RWQCB in 1999. The NPDES permit would allow treated pond waters to be discharged into the near-by Casmalia Creek based on the ponds' capacity. As of January 2002, discharges under the permit have not been needed due to on-site utilization of the pond waters. Future efforts to minimize the amount of rain water runoff entering the ponds using a "general stormwater permit" are also being considered.

Capping of four of the six landfills began with placement of a multi-layer cap on top of the Pesticides/Solvents landfill in the summer of 1999. The multi-layer cap for this largest landfill on the facility consisted of 5 layers. The bottom most layer consists of 2 feet of compacted soil, followed by a plastic liner made of high-density polyethylene (HDPE). Both the compacted soil and HDPE layers are to prevent rain water from infiltrating into and through the landfill waste. Above the HDPE liner is a plastic screen "sandwiched" between fabric material. The "sandwiched" screen channels infiltrated rain water down-slope where the water then comes to the surface ("daylights") into constructed surface drainage channels. Above the "sandwiched" screen is the top "vegetative" layer of at least 2 feet of compacted clean soil. The purpose of the vegetation on the top most soil layer is to prevent erosion. Also, bisecting this vegetative layer is another plastic screen, which acts to prevent animals from burrowing through the cap.



Work in the summer of 2001 included construction caps over three more landfills: the Metals/Sludges, the Caustic/Cyanide, and the Acids; and to correct work performed on the Pesticides/Solvents landfill. The cap designed for the three landfills was very similar to that used for the Pesticides/Solvents landfill cap. The major difference between the designs was utilizing a “geosynthetic clay liner’ in place of the two feet of compacted soil. Because drums were found unexpectedly near the crest surface of the Caustic/Cyanide, only construction of the Metals/Sludges landfill cap and corrective action on the Pesticides/Solvents cap occurred.

Metals Landfill with Caustic/Cyanide Landfill in Background

Metals Landfill with RCF Pond in Foreground

Metals Landfill - Interstitial Area

Pesticide/Solvent Tie-in Work to Metals Landfill

WORK IN THE FUTURE

Work will continue on enhancing the on-site contaminated liquids treatment systems. Construction of caps on the Caustic/Cyanide and Acids landfills is planned for the Spring of 2002. Sampling to determine the extent of contamination on and near the facility ("remedial investigation" or "RI") should begin in the Fall of 2002. The evaluation of potential cleanup options ("feasibility study or "FS") is scheduled to be part of the RI/FS report submitted in the Spring of 2004.

As seen in the more recent photos, the Site's appearance has changed considerably since the early 1990s and it has become a habitat for wildlife. Many common animal and plant species are found on-site. Also found are five sensitive species: four animal species (the California red-legged frog, the western spade footed toad, the two-striped garter snake, and the California horned lizard) and one plant species, the Coutler's goldfields.

Coulter's Goldfield

Red-legged Frog

Western Spade Footed Frog

Coast Horned Lizard

Two-Striped Garter Snake